Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996	CC Docket No. 96-98

Reply Comments of the Independent Data Communications Manufacturers Association

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SUMMARY

IDCMA submits these comments on behalf of the manufacturers that will develop and supply much of the equipment that will be interconnected and collocated as local competition develops. IDCMA joins new entrants in local service (interexchange carriers and competitive access providers) and end-users in strongly endorsing the Commission's proposed pro-competitive, national technical interconnection, network unbundling and collocation rules. IDCMA supports those commenters' call for access to various categories of local loops, including dedicated copper facilities, as well as unbundled component elements of the local loop. IDCMA also supports those commenters that urge the Commission to adopt a collocation rule that makes all types of equipment eligible for collocation at any operations structures or premises of an incumbent local exchange carrier, for the provision of basic or enhanced services.

TABLE OF CONTENTS

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The Independent Data Communications Manufacturers Association ("IDCMA"), by counsel, hereby replies to the comments filed in response to the Commission's proposal to implement the local exchange interconnection, network element unbundling, and collocation provisions of the Telecommunications Act of 1996.[1]

INTRODUCTION

Identification and Interest of IDCMA. IDCMA is an association of high technology data communications equipment manufacturers that are not affiliated with any telecommunications carriers. IDCMA member companies produce telecommunications equipment and customer premises equipment used to facilitate the transmission of voice, data,

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[1] See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Notice of Proposed Rulemaking, CC Docket No. 96-98, ¶¶ 49-171 (rel. Apr. 19, 1996) ("Notice").

and video communications on private and public telecommunications networks. Such equipment includes: switches for high-speed packet, frame relay, and Asynchronous Transfer Mode ("ATM") services; multiplexers; paired (or collocated) equipment for 2B1Q, Asymmetric Digital Subscriber Line ("ADSL"), High-speed Digital Subscriber Line ("HDSL"), and Data-Over-Voice ("DOV") services; data service units/channel service units ("DSUs/CSUs"); modems; and digital data sets. IDCMA member companies are leading manufacturers of high technology equipment, developing innovative solutions to meet end-users' communications needs. They also export equipment to all corners of the globe, including difficult-to-enter markets in Japan and Europe.

Summary of Position. As the Commission considers the technical interconnection, network unbundling, and collocation rules intended to unleash local exchange/local access competition, IDCMA submits these comments on behalf of the manufacturers that will develop and supply much of the interconnecting equipment. The Information Superhighway will only be as successful as the equipment necessary to provide and access innovative services. It is the equipment, after all, that embodies the technology that makes such development possible. In order to make it viable for high technology companies to develop such equipment, a national market for such products must exist. A national equipment market, moreover, will yield more cost-efficient services and enhance the competitiveness of U.S. telecommunications manufacturers abroad. As a result, IDCMA joins new entrants in local service ("competitive local exchange carriers" or "CLECs") and end-users in strongly endorsing the Commission's proposed pro-competitive, national technical interconnection and network

unbundling rules.[2] Also, IDCMA supports those commenters' call for access to various categories of local loops, including dedicated copper facilities, as well as access to unbundled component elements of the local loop. In addition, IDCMA supports those commenters that urge the Commission to adopt national collocation rules that make all types of equipment eligible for collocation at any operations structures or premises of an incumbent local exchange carrier ("ILEC").

I. The Comments Confirm that National Rules Governing Technical Interconnection, the Unbundling of Network Elements, and Collocation Will Ensure a National Equipment Market and Thereby Enhance U.S. Productivity, Benefit Consumers, and Improve U.S. Manufacturers' Global Competitiveness

A. Adoption of national rules will ensure the economies of scale in manufacturing that only a national equipment market can produce

In the initial round of comments, industry sectors entering the local exchange/local access market -- competitive access providers[3] and interexchange carriers[4] -- as well as end-users

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[2] Such rules will implement the interconnection and network unbundling provisions set out in Section 251(c)(2)(B), "[interconnection] . . . at any technically feasible point within the carrier's network," and Section 251(c)(3), ". . . access to network elements on an unbundled basis at any technically feasible point . . . ." Telecommunications Act of 1996, Pub. L. No. 104-104, § 101, 110 Stat. 56, 62, 104th Cong., 2d Sess. (1996) (to be codified at 47 U.S.C. §§ 251(c)(2)(B) & (c)(3)).

[3] See, e.g., Comments of MFS Communications Company, Inc. (filed May 16, 1996) ("MFS Comments"); Comments of American Communications Services, Inc. (filed May, 16, 1996) ("ACSI Comments); Comments of the Association for Local Telecommunications Services (filed May 16, 1996) ("ALTS Comments").

[4] See, e.g., Comments of AT&T Corp. (filed May 16, 1996); Comments of MCI Telecommunications Corporation (filed May 16, 1996) ("MCI Comments").

that will benefit from the ensuing competition[5] strongly endorsed the Commission's tentative conclusion that national rules should govern technical interconnection, network unbundling, and collocation.[6] Several telecommunications equipment manufacturers also expressed support for development of such national rules.[7] In doing so, these manufacturers explained that national guidelines governing access to unbundled network elements will produce significant cost savings and accelerate the development of innovative equipment. IDCMA joins these commenters in support of national rules that will ensure a dynamic, expansive interpretation of the technical interconnection and network unbundling provisions of the Telecommunications Act.[8]

The Notice observed that the current market for telecommunications equipment is a nationwide one that flourishes "without substantial regional or state-to-state variation in equipment design."[9] This national market has permitted manufacturers to develop and produce innovative, cost-effective telecommunications equipment without having to adapt such products to a multitude of varying and potentially inconsistent interconnection requirements. Indeed, the

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[5] See, e.g., Comments of the Ad Hoc Telecommunications Users Committee (filed May 16, 1996) ("Ad Hoc Comments"); Comments of the General Services Administration and the United States Department of Defense (filed May 16, 1996) ("GSA/DoD Comments").

[6] For a discussion of national rules governing collocation, see infra Part III.

[7] See, e.g. Comments of Northern Telecom (filed May 16, 1996); Comments of Lucent Technologies, Inc. in Response to Notice of Proposed Rulemaking (filed May 16, 1996) ("Lucent Comments); Comments of The Ericsson Corporation (filed May 16, 1996).

[8] See Telecommunications Act § 101 (to be codified at 47 U.S.C. §§ 251(c)(2)(B) & (c)(3)). While these comments address technical interconnection, network element unbundling, and collocation, they do not deal with any pricing issues.

[9] Notice at ¶ 79.

ability of manufacturers to meet the ever-growing demand for new communications services rests in part on the certainty that a nationwide market awaits the development of any such devices.

If access to unbundled network elements were determined on a state-by-state basis, several commenters noted, the ensuing patchwork of rules would impede the development of facilities-based competition at the local level. As Northern Telecom explained in its comments, "[t]he cost of developing equipment would increase greatly if manufacturers were required to customize equipment to comply with a patchwork of inconsistent state requirements."[10] AT&T further noted that "the resulting 'patchwork' . . . would dramatically increase [competing providers'] capital and other costs of entry in each state in the nation."[11] Such a system, IDCMA believes, would considerably reduce or eliminate the national equipment market that exists today.

Furthermore, state-by-state rules would likely lead to the balkanization of the national telecommunications infrastructure. It would be ironic if the Commission were to adopt a fragmented technical interconnection/network unbundling/collocation regime even as the Telecommunications Act seeks to advance interconnection and the Administration promotes an interoperable network of networks as a cornerstone of its National (and Global) Information Infrastructure Initiative.[12]

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[10] Comments of Northern Telecom at 10.

[11] Comments of AT&T Corp. at 9.

[12] See Vice President Al Gore, Address before the International Telecommunication Union (Mar. 21, 1994) ("Today, there are many more technology options than in the past and it is not only possible, but desirable, to have different companies running competing -- but interconnected networks.").

In contrast to 50 state schemes consisting of disparate and conflicting rules, commenters explained, a set of national rules governing access to unbundled network elements will create an interoperable, cost-effective regime of competitive, facilities-based telecommunications networks. American Communications Services, Inc. ("ACSI"), for example, notes that adoption of national rules will provide savings in equipment design and standardization.[13] National rules, Lucent Technologies, Inc. explained, will "minimize unnecessary local variation and exception for product requirements."[14] In support of a consistent national approach, AT&T noted that "network design and traffic engineering can be affected profoundly by economies of scale and seamless interconnectivity."[15] Indeed, national rules will permit manufacturers to enjoy economies of scale as they produce equipment that can be connected to local networks across the nation. IDCMA, therefore, supports MCI's call for national technical interconnection and network unbundling rules that include a "dynamic definition of technical feasibility" which permits interconnection at points that "may be either

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[13] See ACSI Comments at 32.

[14] See Lucent Comments at 3.

[15] Comments of AT&T Corp. at 18.

physical, for facilities and equipment, or logical, for software and databases."[16] National uniform rules, IDCMA believes, will facilitate CLECs' delivery of competitive services.[17]

B. Adoption of national rules will benefit consumers by producing cost savings, expediting the development of innovative services, and ensuring nationwide access to new equipment

IDCMA concurs with those commenters who observed that national rules will lower CLECs' cost of entry into local exchange/local access service. As the General Services Administration and the Department of Defense explained, uniform network configurations will permit CLECs to achieve "significant economies."[18] In doing so, several commenters noted, national rules will lower prices charged to end-users. The Ad Hoc Telecommunications Users Committee, for example, explained that the uniformity created by comprehensive federal rules

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[16] MCI Comments at 13. IDCMA also supports the position of the Telecommunications Industry Association, which asserts that the Commission should ensure that all manufacturers, in addition to CLECs, are able to access information on a timely basis regarding changes to network design or configuration. See Comments of the Telecommunications Industry Association in Response to Notice of Proposed Rulemaking at 14-15 (filed May 16, 1996) ("TIA Comments").

[17] While IDCMA urges the Commission to adopt national rules for the unbundling of network elements, it supports Northern Telecom's position that the Commission should permit the telecommunications industry, through accredited and non-accredited standards-setting bodies, to determine as necessary interface standards that will accompany the unbundling of network elements. See Comments of Northern Telecom at 9 n.14.

[18] See GSA/DoD Comments at 5. Furthermore, as the Telecommunications Industry Association pointed out, national rules will create the certainty and predictability to facilitate greater investment in new telecommunications infrastructure. See TIA Comments at 5.

will "create operational efficiencies which translate into better prices and services for users."[19] Lucent added that national rules will ensure that development resources "are used most efficiently, to the benefit of equipment purchasers and their customers . . . ."[20]

Explicit national rules governing network element unbundling, moreover, will enable CLECs to offer consumers innovative services otherwise unavailable. A CLEC, Ad Hoc noted, may be able to introduce a new or different service only "if it is able to strip away all but a very few key, traditional elements of the ILECs' service and substitute its own network elements for the rest."[21]

In addition, as Northern Telecom demonstrated in its comments, disparate rules governing technical interconnection and network unbundling may prevent end-users in some markets from enjoying the benefits of innovative equipment and services. "If different states established different priorities," Northern Telecom explained, "then the manufacturers would be unlikely to satisfy every State's preferences, because they cannot develop all of the possible capabilities at once."[22] Disparate state rules could put some consumers at a significant competitive disadvantage by denying CLECs the ability to introduce innovative equipment and deliver new services requiring unbundled elements. A national baseline, in contrast, will permit manufacturers to introduce new functionalities accessible throughout the country.

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[19] Ad Hoc Comments at 5.

[20] Lucent Comments at 3 (emphasis added).

[21] Ad Hoc Comments at 16.

[22] Comments of Northern Telecom at 11.

To the extent that ILECs extend and restructure their networks, this analysis applies equally to their networks. Thus ILECs and their end-users will benefit from the economies of scale to be derived from national rules.

C. Adoption of national rules will make U.S. manufacturers more competitive in the global telecommunications equipment marketplace

Adoption of national rules will improve U.S. telecommunications equipment manufacturers' global competitiveness as well. As noted above, uniform national rules will permit manufacturers to enjoy economies of scale as they develop and produce equipment for a national market.[23] A lower cost of production, in turn, will allow manufacturers to offer their products at lower prices in the global equipment market.

Furthermore, as Lucent observed in its comments, a single, national set of technical interconnection and network unbundling rules will enhance the likelihood that U.S. rules are adopted when local competition is embraced worldwide.[24] Moreover, the equipment development and innovation that will ensue from explicit national unbundling rules will leave the U.S. equipment market well positioned when other countries embark on interconnection and network unbundling.

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[23] See supra Part I.A.

[24] See Lucent Comments at 3. Indeed, it would be ironic if the United States were to promote fragmented networks as the European Union endeavors to harmonize technical aspects of networks in various member countries.

II. The Comments Provide Strong Support for Unbundling the Local Loop (¶¶ 94-97)

If properly implemented, network element unbundling will facilitate the deployment and widespread availability of a variety of competing local exchange/local access services. As several commenters observed, unbundling the local loop -- the "bottleneck" of the local network that links an ILEC's central office to a customer's premises -- is critically important to the development of local competition.[25] Access to the local loop will allow CLECs to compete for service without a complete facilities-based distribution network in place. In addition, from the manufacturers' perspective, rules governing access to, and use of, the local loop are of great consequence because they will directly affect the types of technology that CLECs can use on the loop in the provision of service.

A. The local loop must be unbundled and dedicated copper connections should be required

Congress specifically identified the local loop as a network element that should be unbundled.[26] As an initial matter, several parties commented on the rules that should govern the local loop as a single network element. These commenters urged the Commission to adopt rules that require ILECs to make available several categories of local loops, thereby providing a variety of transmission capacities.[27] IDCMA supports the ability of CLECs to obtain non-

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[25] See, e.g., ACSI Comments at 35-36; MFS Comments at 42.

[26] See H.R. Conf. Rep. No. 104-458, 104th Cong., 2d Sess. 116 (1996).

[27] See, e.g., MFS Comments at 44 (identifying five categories of loops that an ILEC should make available: 2-wire analog voice grade links; 4-wire analog voice grade links; (continued...)

discriminatory access to loops with various transmission capacities. Of critical importance is the ability of CLECs to obtain access to local loop facilities consisting of dedicated copper wire. Several paired technologies, including ADSL, HDSL, and DOV technology, require "end-to-end" copper for transmission from the main distribution frame in the ILEC's central office to the network interface at the user's premises. Any active electronic equipment or devices (such as Subscriber Loop Carrier ("SLC") or Digital Loop Carrier ("DLC") systems and certain network interface devices) or loading coils on the copper loop will prevent use of these new technologies.[28] ILECs currently use such dedicated copper loops in the provisioning of their service offerings and make them available as unbundled network elements.[29] By accessing such

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[27](...continued)
2-wire ISDN digital grade links; 2-wire links meeting Carrier Serving Area ("CSA") design guidelines (to support HDSL and other paired technology-provisioned services); and 4-wire links conforming to the same CSA guidelines); ALTS Comments, Attachment A at 19 (identifying seven types of local loops that an ILEC should make available, without any degradation in the technical capabilities of the facility, at the request of a connecting carrier: 2-wire; 4-wire; analog; digital; DS1; DS3; and ISDN loops).

[28] For example, HDSL was designed to work on copper pairs conforming to CSA guidelines. These guidelines are expressed as limits on the physical makeup of the loop, but they have the effect of controlling transmission performance. Thus, loops that meet CSA guidelines are expected to be suitable facilities for HDSL-provisioned services.

[29] Indeed, dedicated copper loops are not merely "technically feasible," but are readily available. MFS observes that ILECs generally use "end-to-end metallic circuits" in the provisioning of ISDN and other services with specialized transmission requirements. See MFS Comments at 43. In addition, Bell Atlantic observed that it currently offers unbundled loops and is prepared to provide them throughout its region. See Comments of Bell Atlantic at 23 (filed May 16, 1996). Unbundled local loops, notes a Bell Atlantic consultant, typically consist of "a dedicated copper wire pair running from a telephone company central office to a customer premises or over loop carrier facilities." Comments of Bell Atlantic, Attached Declaration of Dr. Charles L. Jackson at 2. In addition, Ameritech's comments, Comments of Ameritech at 39 n.64 (filed May 16, (continued...)

"copper-all-the-way" local loop facilities, CLECs may offer several innovative solutions to end users' needs.

B. Further local loop unbundling should be required

IDCMA joins several commenters in support of the Commission's position in favor of unbundling component elements of the local loop.[30] As Ad Hoc stated in its comments, "[t]he more unbundling the Commission requires, the fewer services new providers will be forced to obtain from their ILEC competitors . . . and the greater their opportunities will be to introduce new and innovative services . . . ."[31] In particular, IDCMA endorses a local loop subelement plan, identified by MCI, that requires unbundled access to four component elements:

> Network Interface Device/Unit: the point of demarcation between the end-user's inside wiring and the local loop [if a Network Interface device exists].
>
> Loop Distribution: the portion of the outside plant cable from the Network Interface . . . at the customer's premises to the terminal block appearance on the distribution side of a Feeder Distribution interface.
>
> Digital Loop Carrier/Analog Cross Connect: the equipment used to assign and connect multiple incoming Loop Distribution elements to an equal or smaller number of Loop Feeder Channels.

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[29](...continued)
1996), referenced a technical publication which describes Ameritech's unbundled digital loops capabilities, including the provision of a "copper wire" loop, Ameritech Unbundled Digital Loops Technical Specifications, AM TR-TMO-000123, at 1 (Dec. 1994).

[30] See, e.g., MCI Comments at 16; ACSI Comments at 35-40; Comments of AT&T Corp. at 19; Ad Hoc Comments at 22-23.

[31] Ad Hoc Comments at 17.

> Loop Feeder: the physical facility between . . . the Feeder Distribution interface and the main distribution or other designated frame within the central office or similar environment.[32]

IDCMA supports ACSI's position that the Commission should permit CLECs to interconnect on either side of these "subloop" elements.[33] IDCMA also supports the position espoused by the Association for Local Telecommunications Services ("ALTS") that an ILEC must provide unbundled network elements in a manner that enables CLECs to combine elements with other ILEC elements or with network elements of the requesting carrier or any other entity.[34] Moreover, as MFS states, "at the requesting carrier's discretion," the ILEC should deliver each loop element to the point of access -- which may include a physical collocation cross-connection -- "over an individual 2-wire or 4-wire hand-off or in multiples of 24 over a digital DS-1 hand-off, [or] in any combination or order . . . ."[35]

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[32] MCI Comments at 16; see also Comments of the Telecommunications Carriers for Competition at 35-37 (filed May 16, 1996); ALTS Comments, Attachment A at 20. Other commenters support similar unbundled loop subelement access plans. See Comments of AT&T Corp. at 19; ACSI Comments at 36.

[33] See ACSI Comments at 37.

[34] See ALTS Comments, Attachment A at 19.

[35] MFS Comments at 45.

III. The Comments Confirm that Collocation of All Types of Equipment is Appropriate at Any Part of an Incumbent LEC's Operational Plant (¶¶ 66-73)

IDCMA joins several commenters in support of the Commission's tentative conclusion to adopt national rules governing the equipment collocation provision of the Telecommunications Act.[36] Specifically, IDCMA supports those comments that favor collocation of any type of equipment, at any part of an ILEC's operational plant, for the provision of basic or enhanced services.

In its comments, MFS endorsed collocation "at any ILEC premise where physical collocation is technically feasible, including central offices, cable vaults, manholes, cross-connect points, loop carrier, and building closets."[37] MFS noted that competing providers oftentimes cannot gain access to building demarcation points, and thus collocation at ILEC premises "beyond the central office" would address such circumstances and further the development of competitive local services.[38] IDCMA joins MFS and several parties in the initial round of comments[39] in support of a rule that will provide for collocation beyond the central office at any part of an ILEC's plant. Furthermore, IDCMA supports MFS in proposing that CLECs should be able to interconnect collocated equipment.[40]

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[36] See Notice at ¶ 67.

[37] MFS Comments at 22 (emphasis omitted).

[38] See id. at 23-24.

[39] See, e.g., MCI Comments at 53; ALTS Comments at 21; Comments of AT&T Corp. at 40.

[40] See MFS Comments at 24-25.

In addition, IDCMA joins several parties in urging the Commission to adopt rules that would make any type of equipment eligible for collocation.[41] Eligible equipment should include paired technology line drivers (for ADSL, HDSL, and other services). Eligible equipment also should include transmission equipment such as multiplexers, optical terminating equipment and microwave facilities, as well as switches, computers, and customer premises equipment.[42] Indeed, as ALTS noted, any type of equipment should be appropriate for collocation, subject only to reasonable consideration of harm to the ILEC.[43] An all-inclusive equipment policy, IDCMA believes, will enhance competition as CLECs will be able to offer competitive innovative services.

Finally, IDCMA concurs with MFS in asserting that, "[f]or purposes of developing collocation rules, the Commission should not get mired in policing collocation standards that differ depending on whether an activity is classified as an enhanced service, an access service, a local exchange service, a wireless service or a long distance service."[44] Allowing CLECs to use collocated equipment to offer both basic and enhanced services will make these new providers more competitive and will "level the playing field" with ILECs that currently utilize equipment on their premises to offer a variety of services.

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[41] See, e.g., id. at 24; Comments of AT&T at 40; ALTS Comments at 21; MCI Comments at 54.

[42] See MFS Comments at 24.

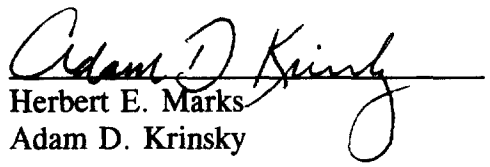
[43] See ALTS Comments at 21; see also MCI Comments at 54.

[44] MFS Comments at 26.

CONCLUSION

For the foregoing reasons, IDCMA urges the Commission to adopt national rules governing technical interconnection and network element unbundling, to ensure CLEC access to various categories of local loops, including dedicated copper wire, as well as local loop subelements, and to permit collocation of any type of equipment at any operations structure or premises of an incumbent LEC.

Respectfully submitted,



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